

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicants : Glen VAN DATTA, et al.
Serial No. : 10/701,302
Filed : November 3, 2003
For : MULTIPLE PEER-TO-PEER RELAY NETWORKS
Art Unit : 2493
Examiner : Chau D. Le
Confirmation No. : 5239

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APPELLANTS' APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450.

Sir/Madam:

This is an Appeal from the Office Action issued by the Examiner dated October 8, 2010, in the above-identified application, rejecting claims 1, 2 and 7-26. A Notice of Appeal was filed on December 22, 2010. This Brief is submitted in accordance with 37 C.F.R. §41.37.

Appellants submit herewith a payment in the amount of \$540.00. The Commissioner is authorized to charge any additional fee, or credit any overpayment for this paper, to Deposit Account No. 50-0320.

1. **REAL PARTY IN INTEREST**

The real party in interest is Sony Computer Entertainment America LLC., a United States Corporation with offices at 919 East Hillside Boulevard, Foster City, CA 94404-2175. The assignment of this application is recorded in the United States Patent and Trademark office at Reel 15112 Frame 0274.

2. **RELATED APPEALS AND INTERFERENCES**

Upon information and belief, the undersigned attorney does not believe that there is any appeal or interference that will directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

3. **STATUS OF THE CLAIMS**

The Application was filed with claims 1-26 on November 3, 2003, and assigned Application Serial No. 10/701,302.

On February 24, 2009, the Examiner issued a first Office Action rejecting claims 1-26. On July 24, 2009, Appellants filed a reply amending claims 1, 12, 14, 18, 21 and 24-26.

On November 24, 2009, the Examiner issued a Final Office Action rejecting claims 1-26. On January 22, 2010, Appellants filed a reply amending claims 1, 12, 14, 18, 21 and 24-26 and canceling claims 3-6.

On January 28, 2010, the Examiner issued an Advisory Action maintaining the rejection of claims 1-26 and not entering the amendment of January 22, 2010. On February 24, 2010, Appellants filed a Request for Continued Examination entering the January 22, 2010 amendment.

On May 11, 2010, the Examiner issued an Office Action rejecting claims 1, 2 and 7-26.

On July 16, 2010, Appellants filed a reply amending claims 1, 7, 18, 21 and 24.

On October 6, 2010, the Examiner issued a Final Action rejecting claims 1, 2 and 7-26.

On November 8, 2010, Appellants filed a reply making arguments without amending the claims.

On November 23, 2010, the Examiner issued an Advisory Action.

A Notice of Appeal was filed by Appellants on December 22, 2010, from which this Appeal Brief is being filed.

Accordingly, the status of the claims is summarized as follows:

Claims Rejected 1, 2 and 7-26
Claims Allowed or
 confirmed None
Claims Withdrawn None
Claims Objected to None
Claims Canceled 3-6
Claims Appealed 1, 2 and 7-26

The appealed claims 1, 2 and 7-26 are set forth in the Appendix attached hereto.

Appellants appeal the Final Rejection of claims 1, 2 and 7-26.

4. **STATUS OF THE AMENDMENTS**

Appellants believe that all the submitted Amendments to the claims have been entered.

5. **SUMMARY OF THE CLAIMED SUBJECT MATTER**

The citations to Figures and Specification locations are provided immediately following elements of independent claims 1, 18, 21 and 24, which are summarized below. However, such citations are provided merely as examples and are not intended to limit the interpretation of the

claims or to evidence or create any estoppel. There are four (4) independent claims (claims 1, 18, 21 and 24) on appeal in the instant application.

Independent **claim 1** is directed to a network environment supporting multiple peer-to-peer relay networks, comprising a main peer-to-peer relay network including all peer systems in the multiple peer-to-peer relay networks (described in Appellants' specification at page 26, lines 7-14), at least one of the peer systems including at least one processor (described in Appellants' specification at page 36, lines 9-18), the main peer-to-peer network having sub-networks within the main peer-to-peer relay network, wherein each peer system of a sub-network is also a member of the main peer-to-peer relay network (described in Appellants' specification at page 25, lines 24-30);

a first peer-to-peer relay network including a plurality of first peer systems that are a first sub-network of the main peer-to-peer relay network (described in Appellants' specification at page 25, lines 24-30), at least one of said first peer systems including at least one processor (described in Appellants' specification at page 36, lines 9-18), and including a first particular peer system and a second particular peer system (described in Appellants' specification at page 26, lines 1-6);

a second peer-to-peer relay network including a plurality of second peer systems that are a second sub-network of the main peer-to-peer network (described in Appellants' specification at page 25, lines 24-30), at least one of said second peer systems including at least one processor (described in Appellants' specification at page 36, lines 9-18), and including the first particular peer system and the second particular peer system (described in Appellants' specification at page 26, lines 1-6); and

wherein the first particular peer system has a connection to the second particular peer in the first peer-to-peer relay network and the first particular peer system does not have a connection to the second particular peer in the second peer-to-peer relay network (described in Appellants' specification at page 25, lines 16-24), and

wherein a message addressed from a peer in the first peer-to-peer relay network to another peer in the first peer-to-peer relay network is relayed only to peers in the first peer-to-peer relay network (described in Appellants' specification at page 25, lines 24-30), and

wherein a message addressed from a peer in the first peer-to-peer relay network to a peer in the main peer-to-peer relay network before the first sub-network is established is relayed to all peers in the main peer-to-peer relay network (described in Appellants' specification at page 26, lines 7-14).

Independent **claim 18** is directed to a method of relaying data in a peer-to-peer relay network, comprising establishing a main peer-to-peer relay network including all peer systems in the peer-to-peer relay network (described in Appellants' specification at page 36, lines 9-18), at least one of the peer systems including at least one processor (described in Appellants' specification at page 36, lines 9-18), the main peer-to-peer network having sub-networks within the main peer-to-peer relay network, wherein each peer system of a sub-network is also a member of the main peer-to-peer relay network (described in Appellants' specification at page 25, lines 24-30);

establishing a first peer-to-peer relay network including a plurality of first peer systems that are a first sub-network of the main peer-to-peer relay network (described in Appellants' specification at page 25, lines 24-30), at least one of said first peer systems including at least one

processor (described in Appellants' specification at page 36, lines 9-18), and including a first particular peer system and a second particular peer system (described in Appellants' specification at page 26, lines 1-6);

establishing a second peer-to-peer relay network including a plurality of second peer systems that are a second sub-network of the main peer-to-peer network (described in Appellants' specification at page 25, lines 24-30), at least one of said second peer systems including at least one processor (described in Appellants' specification at page 36, lines 9-18), and including the first particular peer system and the second particular peer system (described in Appellants' specification at page 26, lines 1-6);

wherein the first particular peer system has a connection to the second particular peer in the first peer-to-peer relay network and the first particular peer system does not have a connection to the second particular peer in the second peer-to-peer relay network (described in Appellants' specification at page 25, lines 16-24);

receiving data at a relaying peer system in the first peer-to-peer relay network from a sending peer system connected to the relaying peer system (described in Appellants' specification at page 26, lines 19-20 and FIG. 21 block 2105);

selecting another peer in the first peer-to-peer relay network corresponding to said received data (described in Appellants' specification at page 26, lines 21-24 and FIG. 21, block 2110); and

relaying said data to the another peer system (described in Appellants' specification at page 26, lines 26-31 and FIG. 21, block 2120),

wherein a message addressed from a peer in the first peer-to-peer relay network to another peer in the first peer-to-peer relay network is relayed only to peers in the first peer-to-peer relay network (described in Appellants' specification at page 25, lines 24-30), and

wherein a message addressed from a peer in the first peer-to-peer relay network to a peer in the main peer-to-peer relay network before the first sub-network is established is relayed to all peers in the main peer-to-peer relay network (described in Appellants' specification at page 26, lines 7-14).

Independent **claim 21** is means-plus-function format and is directed to a peer system in a peer-to-peer relay network, comprising: means for establishing a main peer-to-peer relay network (2905) including all peer systems in the peer-to-peer relay network (described in Appellants' specification at page 36, lines 9-18), at least one of the peer systems including at least one processor (described in Appellants' specification at page 36, lines 9-18), the main peer-to-peer network having sub-networks within the main peer-to-peer relay network, wherein each peer system of a sub-network is also a member of the main peer-to-peer relay network (described in Appellants' specification at page 25, lines 24-30);

means for establishing a first peer-to-peer relay network (2950) including a plurality of first peer systems that are a first sub-network of the main peer-to-peer relay network (described in Appellants' specification at page 25, lines 24-30), at least one of said first peer systems including at least one processor (described in Appellants' specification at page 36, lines 9-18), and including a first particular peer system and a second particular peer system (described in Appellants' specification at page 26, lines 1-6);

means for establishing a second peer-to-peer relay network (2950) including a plurality of second peer systems that are a second sub-network of the main peer-to-peer network (described in Appellants' specification at page 25, lines 24-30), at least one of said second peer systems including at least one processor (described in Appellants' specification at page 36, lines 9-18), and including the first particular peer system and the second particular peer system (described in Appellants' specification at page 26, lines 1-6);

wherein the first particular peer system has a connection to the second particular peer in the first peer-to-peer relay network and the first particular peer system does not have a connection to the second particular peer in the second peer-to-peer relay network (described in Appellants' specification at page 25, lines 16-24);

means for receiving data at a relaying peer system (3065) in the first peer-to-peer relay network from a sending peer system connected to the relaying peer system (described in Appellants' specification at page 26, lines 19-20 and FIG. 21 block 2105);

means for selecting (3065) another peer in the first peer-to-peer relay network corresponding to said received data (described in Appellants' specification at page 26, lines 21-24 and FIG. 21, block 2110); and

means for relaying (3065) said data to the another peer system (described in Appellants' specification at page 26, lines 26-31 and FIG. 21, block 2120),

wherein a message addressed from a peer in the first peer-to-peer relay network to another peer in the first peer-to-peer relay network is relayed only to peers in the first peer-to-peer relay network (described in Appellants' specification at page 25, lines 24-30), and

wherein a message addressed from a peer in the first peer-to-peer relay network to a peer in the main peer-to-peer relay network before the first sub-network is established is relayed to all

peers in the main peer-to-peer relay network (described in Appellants' specification at page 27, lines 7-14).

Independent **claim 24** is directed to a non-transitory computer-readable storage medium having a computer-readable program embodied therein, said computer readable program adapted to be executed to implement a peer system in a peer-to-peer relay network, the method comprising:

establishing a main peer-to-peer relay network including all peer systems in the peer-to-peer relay network (described in Appellants' specification at page 36, lines 9-18), at least one of the peer systems including at least one processor (described in Appellants' specification at page 36, lines 9-18), the main peer-to-peer network having sub-networks within the main peer-to-peer relay network, wherein each peer system of a sub-network is also a member of the main peer-to-peer relay network (described in Appellants' specification at page 26, lines 1-6);

establishing a first peer-to-peer relay network including a plurality of first peer systems that are a first sub-network of the main peer-to-peer relay network (described in Appellants' specification at page 25, lines 24-30), at least one of said first peer systems including at least one processor (described in Appellants' specification at page 36, lines 9-18), and including a first particular peer system and a second particular peer system (described in Appellants' specification at page 26, lines 1-6);

establishing a second peer-to-peer relay network including a plurality of second peer systems that are a second sub-network of the main peer-to-peer network (described in Appellants' specification at page 25, lines 24-30), at least one of said second peer systems including at least one processor (described in Appellants' specification at page 36, lines 9-18),

and including the first particular peer system and the second particular peer system (described in Appellants' specification at page 26, lines 1-6);

wherein the first particular peer system has a connection to the second particular peer in the first peer-to-peer relay network and the first particular peer system does not have a connection to the second particular peer in the second peer-to-peer relay network (described in Appellants' specification at page 25, lines 16-24);

receiving data at a relaying peer system in the first peer-to-peer relay network from a sending peer system connected to the relaying peer system (described in Appellants' specification at page 26, lines 19-20 and FIG. 21 block 2105);;

selecting another peer in the first peer-to-peer relay network corresponding to said received data (described in Appellants' specification at page 26, lines 21-24 and FIG. 21, block 2110); and

relaying said data to the another peer system (described in Appellants' specification at page 26, lines 26-31 and FIG. 21, block 2120),

wherein a message addressed from a peer in the first peer-to-peer relay network to another peer in the first peer-to-peer relay network is relayed only to peers in the first peer-to-peer relay network (described in Appellants' specification at page 25, lines 24-30), and

wherein a message addressed from a peer in the first peer-to-peer relay network to a peer in the main peer-to-peer relay network before the first sub-network is established is relayed to all peers in the main peer-to-peer relay network (described in Appellants' specification at page 27, lines 7-14), and

wherein each peer independently maintains a list of available networks and a list of peers in each network (described in Appellants' specification at page 26, lines 7-14).

6. **ISSUES TO BE REVIEWED ON APPEAL**

Appellants request review of the following issues, specifically:

- Whether Claims 1, 2, 7, 9-13, and 16-26 are patentable and non-obvious over U.S. Pat. App. Publ. No. 2002/0184310 of *Traversat* et al. (“*Traversat*”) in view of “Federated Grids and their Security” (“*Fox*”) under 35 U.S.C. §103(a);
- Whether Claim 8 is patentable and non-obvious over *Traversat*, *Fox*, and further in view of U.S. Pat. No. 7,240,093 to *Danieli* et al. (“*Danieli*”) under 35 U.S.C. §103(a); and
- Whether Claims 14 and 15 are patentable and non-obvious over *Traversat*, *Fox*, and further in view of U.S. Pat. No. 6,487,600 to *Lynch* under 35 U.S.C. §103(a).

7. **ARGUMENTS**

**I. INDEPENDENT CLAIMS 1, 18, 21 AND 24 ARE PATENTABLE
UNDER 35 U.S.C. §103 OVER *TRAVERSAT* AND *FOX***

Generally, the claims are directed to a multiple grids (networks) of peer-to-peer (P2P) relay networks. A peer system can belong to multiple P2P relay networks. A feature of the invention is a peer can be connected to one peer in one grid but not in another grid even though the two peers are each in both grids.

Without providing an estoppel, Appellants provide a simplified overview of a feature of their invention. A main network includes all of the peers systems in the P2P network. The main network has sub-networks made up of peers in the main network, a first sub-network and a second sub-network. The first and second sub-networks have two peer systems in common: a first particular peer system and a second particular peer system. In a feature of the invention, the first particular peer system is connected to relay of data to the second particular peer system in

the first sub-network and the first particular peer system is not connected to relay data to the second particular peer system in the second sub-network. Peers connected in a P2P network relay data that are transmitted in the P2P network but not to peers that are not connected in the P2P network. *See, for example*, Spec. page 2:2-18 and 6:3-16.

All of the independent claims 1, 18, 21 and 24 were rejected only over *Traversat* and *Fox* and those claims stand or fall together. Appellants contend the combination of *Traversat* and *Fox* does not teach, suggest, or render predictable the elements of independent claims or, in the alternative, it is improper to combine the teachings of *Traversat* and *Fox*.

A. *Fox* does not describe a first peer having a connection to a second peer in a first P2P network and not having a connection to the same peer in a second P2P network when the first and second peers are each in both networks

Claim 1 is representative and recites, *inter alia*:

“a first peer-to-peer relay network . . . including a first particular peer system and a second particular peer system;

. . .

a second peer-to-peer relay network . . . including the first particular peer system and the second particular peer system; and

. . .

wherein the first particular peer system **has a connection** to the second particular peer in the first peer-to-peer relay network and the first particular peer system **does not have a connection** to the second particular peer in the second peer-to-peer relay network” (emphasis added)

The main reference of *Traversat* describes groups in a P2P network. The Examiner points to *Traversat* FIG. 33 (OA of Oct. 6, 2010) as showing two P2P networks, 210A and 210B, each having first particular peer 200A and second particular peer 200B. However, *Traversat* explicitly states, “[p]eer member 200A and peer member 200B may access services provided by

both peer group 210A and peer group 210B.” *Traversat*, par. [0130] (emphasis added), *See, also, Traversat*, par. [0131]. That is, in *Traversat* the particular first and second peers each have access to the services in both peer groups 210A, 210B. This is a feature of *Traversat*.

In contrast, claim 1 of the present application requires the first particular peer to have a connection to the second particular peer in the first P2P network but not in the second P2P network. That is, in the invention as claimed in claim 1, the first particular peer relays messages to the second particular peer when propagated through the first P2P network, but not when the message is propagated through the second P2P network, even though both the first and second peers are each in the first and second P2P networks.

To cure the deficiency in *Traversat*, the Examiner attempts to combine *Fox* with *Traversat*. *Fox* describes, in relevant part, overcoming issues involved in creating “virtual Grids” out of specific Grid installations. (*Fox*, Introduction). *Fox* describes a Grid installation as a set of resources.

The Examiner points to *Fox*, FIG. 2 (OA of Oct. 6, 2010) and the associated description on pages 9-10. The Examiner appears to equate resources controlled by Grid Router GR1 and resources controlled by Grid Router GR2 with the present claim 1 elements of the first P2P relay network and the second P2P relay network, respectively. Further, the Examiner asserts *Fox* Resources R2 and R4 correspond to the present claim 1 elements of the particular first peer and particular second peer, respectively.

The Examiner asserts (OA of Oct. 6, 2010 at pg. 5, referring to *Fox*), “. . . Resources R4 and R2 belong to both relay networks controlled by Grid Router GR1 and GR2.” The Examiner

then includes statements about what might be done, asserting, “. . . privileges and security walls can allow access between R4 and R2 through one grid router but not the other [grid router(?)]. . . .”

The Examiner’s assertions are mere conclusory statements that are not, without impermissible hindsight, supported by the description in *Fox*. Nowhere in *Fox* is there a description that Resource R2 has access to Resource R4 through Grid Router GR2 and Resource R2 does not have access to Resource R4 through Grid Router GR1. Without impermissible hindsight, a *prima facie* case of obviousness cannot be made out from the description in *Fox* as to how the “privileges and security walls” are used to accomplish the task not accomplished by the Grid Routers and required by the elements of claim 1 in the present application.

Lynch and *Danieli* are not cited or relevant to this element of the independent claims.

B. No *prima facie* case of obviousness can be made because there is no reason given with rational underpinning why the teaching of *Traversat* would be modified with *Fox*

MPEP 2143.01 (VI): “If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).” (emphasis added).

In *Traversat*, members of a peer group each have access to all the services within the group. Thus, in *Traversat* FIG. 33, cited by the Examiner, both peers 200A, 200B are members of both peer groups 210A and 210B. As such, “[p]eer member 200A and peer member 200B may access services provided by both peer group 210A and peer group 210B.” Similarly, both

peer members 200C, 200D are members of both peer groups 210A and 210C. As such, “[p]eer member 200C and peer member 200D may access services provided by peer group 210A and peer group 210C.” *Traversat*, pars. [0130]-[0131] and FIG. 33. Thus, it is the intent of *Traversat* to establish peer groups such that peer members in the group “share a set of network services and content.” *Traversat*, Abstract.

The Examiner argues, at page 5, that *Fox*’s Resource R2 has access to Resource R4 through one Grid Router but not through another Grid Router. However, even accepting, *arguendo*, that such is the case, this lack of access would destroy the function of *Traversat*, which explicitly states that peers in a group share the resources of the group.

Thus, if *Fox*’s Resources R2, R4 are both members of the groups controlled by Grid Router GR2 and GR1, *Traversat* would require that both Resources R2 and R4 “share a set of network services and content” of both GR2 and GR1. If *Fox* is applied as asserted by the Examiner, then a particular *Fox* Resource would not have access to the services of a group in which the Resource is a member. This is contrary to the teaching of *Traversat* wherein the peer members in a group “share a set of network services and content” of the group. *Traversat*, Abstract.

The Examiner asserts (OA of Oct. 6, 2010, at pg. 5) to combine *Traversat* with *Fox* “in order to add fine-grained control when building overlay networks to limit access and security liabilities.” While this may be an intent of *Fox*, there is no reason given as to why one of ordinary skill having the teaching of *Traversat*, would choose to modify *Traversat* with *Fox*. That is, the Examiner does not provide a reason with rational underpinning why one of ordinary

skill would choose to modify the teachings *Traversat*, in which members of a peer network each have access to all the services within the network, with *Fox*, in which members of a network are restricted from access to resources in the common network.

Lynch and *Danieli* are not cited or relevant to this element of the independent claims.

CONCLUSION

For the reasons discussed above, claims 1, 2 and 7-26 are patentable. It is, therefore, respectfully submitted that the Examiner erred in rejecting claims 1, 2 and 7-26, and a reversal by the Board is respectfully solicited.

Respectfully submitted,
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APPENDIX I
CLAIMS ON APPEAL

1. A network environment supporting multiple peer-to-peer relay networks, comprising:

a main peer-to-peer relay network including all peer systems in the multiple peer-to-peer relay networks, at least one of the peer systems including at least one processor, the main peer-to-peer network having sub-networks within the main peer-to-peer relay network, wherein each peer system of a sub-network is also a member of the main peer-to-peer relay network;

a first peer-to-peer relay network including a plurality of first peer systems that are a first sub-network of the main peer-to-peer relay network, at least one of said first peer systems including at least one processor, and including a first particular peer system and a second particular peer system;

a second peer-to-peer relay network including a plurality of second peer systems that are a second sub-network of the main peer-to-peer network, at least one of said second peer systems including at least one processor, and including the first particular peer system and the second particular peer system; and

wherein the first particular peer system has a connection to the second particular peer in the first peer-to-peer relay network and the first particular peer system does not have a connection to the second particular peer in the second peer-to-peer relay network, and

wherein a message addressed from a peer in the first peer-to-peer relay network to another peer in the first peer-to-peer relay network is relayed only to peers in the first peer-to-peer relay network, and

wherein a message addressed from a peer in the first peer-to-peer relay network to a peer in the main peer-to-peer relay network before the first sub-network is established is relayed to all peers in the main peer-to-peer relay network

2. The network environment of claim 1, further comprising:
a server connected to each peer system.

7. The network environment of claim 1, wherein:
the peer systems in said first peer-to-peer relay network represent players in an online game.

8. The network environment of claim 7, wherein:
the peer systems in said first peer-to-peer relay network represent players in said online game that are on the same team.

9. The network environment of claim 1, wherein:
data relayed in said first peer-to-peer relay network is network service data.

10. The network environment of claim 1, wherein:
data relayed in said first peer-to-peer relay network is data for an online environment.

11. The network environment of claim 10, wherein:
data relayed in said first peer-to-peer relay network is data for a lobby environment.

12. The network environment of claim 11, wherein:
data relayed in said first peer-to-peer relay network is data for a chat room in said lobby environment.
13. The network environment of claim 10, wherein:
data relayed in said second peer-to-peer relay network is data for an online game.
14. The network environment of claim 1, further comprising:
another peer-to-peer relay network including $N3$ peer systems;
wherein each peer system in said another peer-to-peer relay network is connected to a number of other peer systems in said another peer-to-peer relay network that is less than or equal to a third connection limit, said third connection limit is greater than or equal to 2, said third connection limit is less than or equal to $N3-2$, each peer system in said another peer-to-peer relay network is configured to relay data to peer systems connected to that peer system according to a third set of one or more relay rules, and
wherein at least one peer system in said another peer-to-peer relay network is also in said first peer-to-peer relay network.
15. The network environment of claim 14, wherein:
none of the peer systems in said another peer-to-peer relay network are in said first peer-to-peer relay network.

16. The network environment of claim 1, wherein:

at least one peer system is a network-enabled game console.

17. The network environment of claim 1, wherein:

at least two peer systems are connected through the Internet.

18. A method of relaying data in a peer-to-peer relay network, comprising:

establishing a main peer-to-peer relay network including all peer systems in the peer-to-peer relay network, at least one of the peer systems including at least one processor, the main peer-to-peer network having sub-networks within the main peer-to-peer relay network, wherein each peer system of a sub-network is also a member of the main peer-to-peer relay network;

establishing a first peer-to-peer relay network including a plurality of first peer systems that are a first sub-network of the main peer-to-peer relay network, at least one of said first peer systems including at least one processor, and including a first particular peer system and a second particular peer system;

establishing a second peer-to-peer relay network including a plurality of second peer systems that are a second sub-network of the main peer-to-peer network, at least one of said second peer systems including at least one processor, and including the first particular peer system and the second particular peer system;

wherein the first particular peer system has a connection to the second particular peer in the first peer-to-peer relay network and the first particular peer system does not have a connection to the second particular peer in the second peer-to-peer relay network;

receiving data at a relaying peer system in the first peer-to-peer relay network from a sending peer system connected to the relaying peer system;

selecting another peer in the first peer-to-peer relay network corresponding to said received data; and

relaying said data to the another peer system,

wherein a message addressed from a peer in the first peer-to-peer relay network to another peer in the first peer-to-peer relay network is relayed only to peers in the first peer-to-peer relay network, and

wherein a message addressed from a peer in the first peer-to-peer relay network to a peer in the main peer-to-peer relay network before the first sub-network is established is relayed to all peers in the main peer-to-peer relay network.

19. The method of claim 18, wherein:

said relaying peer system is in two or more peer-to-peer relay networks, and said relaying peer system has respective sets of one or more connections to other peer systems for each peer-to-peer relay network to which said relaying peer system belongs.

20. The method of claim 18, wherein:

said relaying peer system stores a respective connection limit and a respective set of one or more relay rules for each peer-to-peer relay network to which said relaying peer system belongs, a connection limit defines a number of other peer systems up to which a peer system is permitted to connect in that peer-to-peer relay network, and a set of one or more relay rules

defines how a peer system is to relay data to other peer systems connected to that peer system in that peer-to-peer relay network.

21. A peer system in a peer-to-peer relay network, comprising:

means for establishing a main peer-to-peer relay network including all peer systems in the peer-to-peer relay network, at least one of the peer systems including at least one processor, the main peer-to-peer network having sub-networks within the main peer-to-peer relay network, wherein each peer system of a sub-network is also a member of the main peer-to-peer relay network;

means for establishing a first peer-to-peer relay network including a plurality of first peer systems that are a first sub-network of the main peer-to-peer relay network, at least one of said first peer systems including at least one processor, and including a first particular peer system and a second particular peer system;

means for establishing a second peer-to-peer relay network including a plurality of second peer systems that are a second sub-network of the main peer-to-peer network, at least one of said second peer systems including at least one processor, and including the first particular peer system and the second particular peer system;

wherein the first particular peer system has a connection to the second particular peer in the first peer-to-peer relay network and the first particular peer system does not have a connection to the second particular peer in the second peer-to-peer relay network;

means for receiving data at a relaying peer system in the first peer-to-peer relay network from a sending peer system connected to the relaying peer system;

means for selecting another peer in the first peer-to-peer relay network corresponding to said received data; and

means for relaying said data to the another peer system,

wherein a message addressed from a peer in the first peer-to-peer relay network to another peer in the first peer-to-peer relay network is relayed only to peers in the first peer-to-peer relay network, and

wherein a message addressed from a peer in the first peer-to-peer relay network to a peer in the main peer-to-peer relay network before the first sub-network is established is relayed to all peers in the main peer-to-peer relay network.

22. The peer system of claim 21, wherein:

said peer system is in two or more peer-to-peer relay networks, and said peer system has respective sets of one or more connections to other peer systems for each peer-to-peer relay network to which said peer system belongs.

23. The peer system of claim 21, wherein:

said peer system stores a respective connection limit and a respective set of one or more relay rules for each peer-to-peer relay network to which said peer system belongs, a connection limit defines a number of other peer systems up to which a peer system is permitted to connect in that peer-to-peer relay network, and a set of one or more relay rules defines how a peer system is to relay data to other peer systems connected to that peer system in that peer-to-peer relay network.

24. A non-transitory computer-readable storage medium having a computer-readable program embodied therein, said computer readable program adapted to be executed to implement a peer system in a peer-to-peer relay network, the method comprising:

establishing a main peer-to-peer relay network including all peer systems in the peer-to-peer relay network, at least one of the peer systems including at least one processor, the main peer-to-peer network having sub-networks within the main peer-to-peer relay network, wherein each peer system of a sub-network is also a member of the main peer-to-peer relay network;

establishing a first peer-to-peer relay network including a plurality of first peer systems that are a first sub-network of the main peer-to-peer relay network, at least one of said first peer systems including at least one processor, and including a first particular peer system and a second particular peer system;

establishing a second peer-to-peer relay network including a plurality of second peer systems that are a second sub-network of the main peer-to-peer network, at least one of said second peer systems including at least one processor, and including the first particular peer system and the second particular peer system;

wherein the first particular peer system has a connection to the second particular peer in the first peer-to-peer relay network and the first particular peer system does not have a connection to the second particular peer in the second peer-to-peer relay network;

receiving data at a relaying peer system in the first peer-to-peer relay network from a sending peer system connected to the relaying peer system;

selecting another peer in the first peer-to-peer relay network corresponding to said received data; and

relaying said data to the another peer system,

wherein a message addressed from a peer in the first peer-to-peer relay network to another peer in the first peer-to-peer relay network is relayed only to peers in the first peer-to-peer relay network, and

wherein a message addressed from a peer in the first peer-to-peer relay network to a peer in the main peer-to-peer relay network before the first sub-network is established is relayed to all peers in the main peer-to-peer relay network, and

wherein each peer independently maintains a list of available networks and a list of peers in each network.

25. The computer-readable storage medium of claim 24, wherein:

said peer system is in two or more peer-to-peer relay networks, and said peer system has respective sets of one or more connections to other peer systems for each peer-to-peer relay network to which said peer system belongs.

26. The computer-readable storage medium of claim 24, wherein:

said peer system stores a respective connection limit and a respective set of one or more relay rules for each peer-to-peer relay network to which said peer system belongs, a connection limit defines a number of other peer systems up to which a peer system is permitted to connect in that peer-to-peer relay network, and a set of one or more relay rules defines how a peer system is to relay data to other peer systems connected to that peer system in that peer-to-peer relay network.

APPENDIX II

EVIDENCE

None

APPENDIX III
RELATED PROCEEDINGS

None